WHAT IS CLAIMED IS:

transmitting, using a software application, a state-accessing instruction stream to an agent in the configurable processor, the software agent being capable of interpreting that stream; and causing, using the state-accessing instruction stream, the interpreting agent to return the state of the processor to the software application.

- 2. A method as in claim 1 where the interpreting agent is a monitor program.
- 3. A method as in claim 1 where the interpreting agent is an instruction insertion server.
- 4. A method as in claim 1 where the interpreting agent is an architectural simulator.
- 5. A method as in claim 1, further comprising:
 reading, using the software application, information describing the configurable processor's state architecture; and
 generating, using the software application, the instruction stream based on the information.
 - 6. A method as in claim 5 wherein the interpreting agent is a monitor program.
 - 7. A method as in claim 5 wherein the interpreting agent is an instruction insertion server.
 - 8. A method as in claim 5 wherein the interpreting agent is an architectural simulator.

- 9. A computer-readable storage medium storing therein a software program capable of generating a processor from a user description of that processor that also generates information necessary to describe save and restore instructions for state of the processor.
- 10. A computer-readable storage medium storing therein a software library usable for reading a description of save and restore information and then generating saving and restoring instruction streams therefrom.
- 11. A medium as in claim 10 wherein the software library also can deal with interdependencies in state to generate a complete and correct save and restore sequence.
- 12. An instruction-insertion server that takes system topology information from a computer-readable file to determine where elements are in a system described by the file.
 - 13. A system for accessing state from a configurable processor, the system comprising: a software application which transmits a state-accessing instruction stream; an interpreting agent in the configurable processor which receives the instruction,

interprets the stream to access state of the configurable processor, and returns the accessed state of the configurable processor to the software application.

14. A system as in claim 13 where the interpreting agent is a monitor program.

- 15. A system as in claim 13 where the interpreting agent is an instruction insertion server.
- 16. A system as in claim 13 where the interpreting agent is an architectural simulator.
- 17. A system as in claim 13, wherein the software application is to: read information describing the configurable processor's state architecture; and generate the instruction stream based on the information.
- 18. A system as in claim 17 wherein the interpreting agent is a monitor program.
- 19. A system as in claim 17 wherein the interpreting agent is an instruction insertion server.
- 20. A system as in claim 17 wherein the interpreting agent is an architectural simulator.